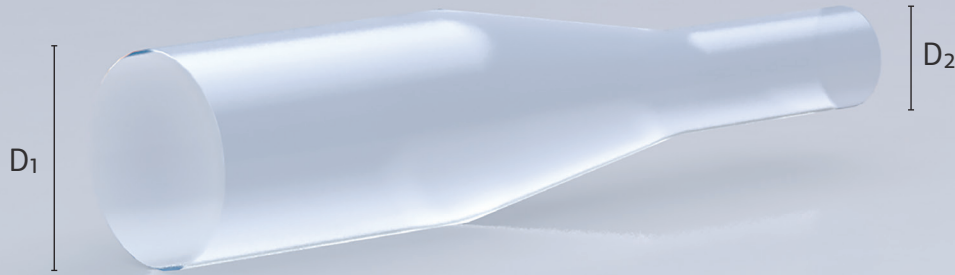


Fiber taper products

Optran® UV, WF, Ultra WFGE



CeramOptec®'s fused tapered fibers can be deployed from the deep UV to the NIR range. Taper products are required where input and output diameters differ. CeramOptec® offers a wide range of options, including for special applications.

Advantages

- Broad temperature range
- High resistance against laser damage
- Special jackets available for high temperatures, high vacuum and harsh chemicals
- All dielectric, non-magnetic design

Formula

A tapered optical fiber acts as a beam diameter and numerical aperture converter, with the input beam being converted according to the following formula:

$$NA_2 = \frac{D_1}{D_2} NA_1$$

NA₁: Input NA | NA₂: Output NA

D₁: Input diameter | D₂: Output diameter

The output NA is limited by the NA of the fiber used, which may result in a loss of light.

Technical data

| | |
|------------------------|---|
| Available fibers | Optran® UV Optran® WF Optran® WFGE |
| Wavelength | From deep UV to NIR |
| Core diameter | 50 to 1500 µm |
| Standard taper ratios | 2:1 3:1 4:1 5:1 or customised |
| Standard proof test | 100 kpsi |
| Minimum bending radius | 5–100 mm (depending on the selected fiber diameter) |